CLAIMS

What is claimed is:

1. A method for delivering a mixed slurry for use in a chemical mechanical polishing operation, said method comprising the steps of:

delivering a first slurry for use in a chemical mechanical polishing operation;

mixing said first slurry with a second slurry to provide a mixed slurry thereof; and

controlling a flow rate and a mixing ratio associated with said mixed slurry, thereby providing an accurate control of said flow rate and adjustable mixing ratios thereof for use in enhancing chemical mechanical polishing operations utilized in the fabrication of semiconductor devices.

2. The method of claim 1 wherein the step of mixing said first slurry with said second slurry to provide a mixed slurry, further comprises the step of:

mixing said first slurry with said second slurry in-line to provide a mixed slurry thereof.

3. The method of claim 2 further comprising the step of adjusting said mixing ratio by controlling said flow rate.

4. The method of claim 1 wherein the step of mixing said slurry with said second slurry, further comprises the step of:

pre-mixing said first slurry with said second slurry to provide a mixed slurry thereof.

5. The method of claim 4 further comprising the step of:

adjusting said mixing ratio by measuring a weight of said first slurry.

6. The method of claim 4 further comprising the step of:

adjusting said mixing ratio by adjusting a weight of said second slurry.

7. The method of claim 4 further comprising the steps of:

adjusting said mixing ratio by adjusting a weight of said first slurry and a weight of said second slurry.

8. The method of claim 4 further comprising the steps of:

pre-mixing said first slurry and said second slurry in a pre-mixing tank to provide said mixed slurry, wherein said pre-mixing tank is associated with at least one load cell to control said mixing ratio;

controlling said flow rate of said mixed slurry delivered from said pre-mixing tank to a chemical mechanical polishing device utilizing a slurry pump associated with said-pre-mixing tank; and

thereafter delivering said mixed slurry to said chemical mechanical polishing device.

9. The method of claim 1 wherein the step of mixing said slurry with said second slurry, further comprises the step of:

mixing said first slurry with said second slurry in-line to provide a mixed slurry thereof; and

pre-mixing said first slurry with said second slurry to provide a mixed slurry thereof.

10. The method of claim 1 further comprising the step of:

delivering said first slurry from a first supply tank linked to at least one circulation pump, wherein said circulation pump is operable in association with at least one slurry pump; and

delivering said second slurry from a second supply tank connected to at least one circulation pump, wherein said second supply tank is operable in association with at least one slurry pump; and

wherein said first and second supply tanks are operable in association with at least one valve.

11. A system for delivering a slurry for use in a chemical mechanical polishing operation, said system comprising:

a first slurry for use in a chemical mechanical polishing operation;

a mixing mechanism for mixing said first slurry with a second slurry to provide a mixed slurry thereof; and

a control mechanism for controlling a flow rate and a mixing ratio associated with said mixed slurry, thereby providing an accurate control of said flow rate and adjustable mixing ratios thereof for use in enhancing chemical mechanical polishing operations utilized in the fabrication of semiconductor devices.

12. The system of claim 11 wherein said mixing mechanism further comprises:

in-line mixing mechanism for mixing said first slurry with said second slurry in-line to provide a mixed slurry thereof.

13. The system of claim 12 wherein said control mechanism permits said mixing ratio to be adjusted by controlling said flow rate.

14. The system of claim 11 wherein said mixing mechanism further comprises:

a pre-mixing mechanism for pre-mixing said first slurry with said second slurry to provide a mixed slurry thereof.

15. The system of claim 14 wherein said mixing ratio is adjustable by measuring a weight of said first slurry.

16. The system of claim 14 wherein said mixing ratio is adjustable by measuring a weight of said second slurry.

17. The system of claim 14 wherein said mixing ratio is adjustable by adjusting a weight of said first slurry and a weight of said second slurry.

18. The system of claim 14 wherein:

said pre-mixing mechanism further comprises a pre-mixing tank for pre-mixing said first slurry and said second slurry to provide said mixed slurry, such that said pre-mixing tank is associated with at least one load cell to control said mixing ratio; and

said flow rate of said mixed slurry delivered from said pre-mixing tank to a chemical mechanical polishing device is controllable utilizing a slurry pump associated with said-pre-mixing tank.

19. The system of claim 11 wherein said mixing mechanism further comprises:

in-line mixing mechanism for mixing said first slurry with said second slurry in-line to provide a mixed slurry thereof; and

pre-mixing mechanism for pre-mixing said first slurry with said second slurry to provide a mixed slurry thereof .

20. The system of claim 11 wherein said delivery mechanism further comprises:

a first supply tank for delivering said first slurry, wherein said first supply tank is linked to at least one circulation pump, such that said circulation pump is operable in association with at least one slurry pump;

a second supply tank for delivering said second slurry, wherein said second supply tank is connected to at least one circulation pump, such that said second supply tank is operable in association with at least one slurry pump; and

wherein said first and second supply tanks are operable in association with at least one valve.